MARK Q. MARTINDALE, Ph.D.
Director of Whitney Laboratory for Marine Bioscience
Professor of Biology

I am a broadly trained integrative biologist focusing on experimental embryology and evolutionary biology as an undergraduate at New College in Sarasota, Florida. I have since worked on the development or regeneration of some 15 animal phyla. I use both classical and modern comparative and functional genomics including being a co-author on two important genome papers of basally branching metazoans (the anthozoan cnidarian Nematostella vectensis and the ctenophore Mnemiopsis leidyi).

I am particularly interested in the origin of spatial organization during the early developmental period and changes in developmental programs associated with dramatic changes in animal body plans in a phylogenetic context. Other areas of interest include the role of life history evolution on development, the relationship between development and regenerative healing, the evolution of distinct cell types, the cellular basis of cnidarian-dinoflagellate symbiosis, and the molecular regulation of biomineralization.

I am strongly committed to scientific training and mentoring; twenty two out of twenty five of my former postdoctoral associates have tenure, are in tenure track positions, or have remained in academic science. Critical thinking and lifelong learning are important goals of our efforts here at the Whitney Laboratory. I have worked and taught at marine labs around the world and believe strongly in empirical science, field experience, and have consistently been a proponent of utilizing biological diversity as a tool for understanding basic concepts in biology.

Education:

1985	Ph.D. Zoology, University of Texas, Austin
1981	B.A. Natural Sciences, New College of the University of South Florida, Sarasota

Professional Experience:

2013-present	Graduate Faculty, University of Florida. Genetics and Neurosc IDP Program
2012-Present	Director and Professor, Whitney Laboratory for Marine Bioscience, University of Florida
2012-2016	Director, Seahorse Key Marine Lab
2007-2012	Director, Kewalo Marine Lab, University of Hawai'i at Manoa (UHM)
2005-2013	Professor, Kewalo Marine Lab, UHM
2003-2013	Cell and Molecular Biology Program, UHM
1999-2005	Associate Professor, Kewalo Marine Lab, UHM
1999-2007	Evolution, Ecology, and Conservation Biology, UHM
1999-present	Graduate Faculty, Department of Zoology, UHM
1998-1999	Assistant Researcher, Kewalo Marine Lab, UHM
1997-1998	Associate Professor, University of Chicago
1990-1997	Assistant Professor, University of Chicago

Postgraduate Appointments:

1986-1990	Department of Anatomy and Cellular Biology, Harvard Medical School
1985-1986	Department of Zoology, University of Texas

Awards and Fellowships:

2021	Allen Distinguished Investigator, Paul G. Allen Frontiers Group/Family Foundation

2009	Alexander Kowalevsky Medal for Comparative Embryology, St. Petersburg, Society of Naturalists
2004	University of Hawai'i Regents Medal for Excellence in Research Award
1998	NASA Life Sciences Fellow, Marine Biological Lab, Woods Hole, MA
1997	Faculty Teaching Award, Pritzker School of Medicine, University of Chicago
1996	Evelyn and Melvin Spiegel Endowed Fellow and the Bernard Davis Fellow, Marine Biological Lab, Woods Hole, MA
1994-1998	Independent Lab at Marine Biological Lab, Woods Hole, MA
1992-1994	Independent Lab at Duke University Marine Lab, Beaufort, NC
1987-1990	N.I.H. N.R.S.A. Postdoc Fellowship Harvard Medical School
1988	Young Investigator of the Year, Runner-Up, Society of Developmental Biology
1985	Young Investigator of the Year, Society of Developmental Biologists

Associations, Teaching and Service:

2018 -22	Academic Advisory Committee, Academia Sinica, Taiwan
2017	Keynote speaker, Evolution of the Metazoa meeting, CNRS, Paris, France
2017	Invited speaker, International Invertebrate Morphology meeting, Moscow, Russia
2016	Southeast Regional Society for Developmental Biology Meeting Organizer
2015-18	Graduate faculty University of North Carolina, Charlotte, appointed
2015	NIH Dev1 Study Section, Ad hoc
2014	NIH Systems Biology ad hoc Study Section
2014	University Sao Paulo, Brasil, Marine Invertebrate Embryology, Instructor San Sebastiao CEMIMar Marine Lab
2014	Society For Developmental Biology (SDB) Meeting Co-Organizer, Seattle, WA
2014	NASA Astrobiology Study Section
2014	NIH Dev1 Study Section
2013	NASA Exobiology Study Section
2012	NIH CHHD Fall Study Section
2012	Sao Paulo School of Advanced Science, Brasil, Instructor Evolution Course
2012	NASA Exobiology Panel Chair
2012	NSF NESCent participant, Cephalopod Genomics
2012	NIH GVE Spring Study Section
2012	UHM Tenure and Promotion Review Committee (Convener and Chair)
2011	West Coast Regional SDB Meeting Organizer
2010-2012	Chair (Elected) of the Division of Evolutionary Developmental Biology, SICB
2010	Konrad Lorenz Workshop Participant, "The Emergence of Form," Vienna
2010	Distinguished Lecturer, Duke University Genetics and Genomics Program
2010	The Richard G. Kessel Lecturer in Embryology, Woods Hole, MA
2010	Sigma Xi, Full Member (Elected)
2009-2012	UH Cell, Molecular and Neurobiology Graduate Admission Committee
2009	NSF Genome Resource for Non-Model Systems Invited Workshop
2008	Fellow (Eluse both classical and modern techected) American Association of the Advancement of Science
2006	NSF NESCent participant, Myelin as a Model for Evolutionary Innovation
2006	Chair, P.B.R.C. Departmental Personnel Committee (DPC)
2004	Basal Metazoan Genome Steering Committee, Joint Genome Institute (D.O.E)
2003	Hawaii's Center for Genomics/Proteomics, and Bioinform. Res.Initiative
2003-2006	University Research Council (URC) Member
2003-2004	Chair, P.B.R.C. Departmental Personnel Committee (DPC)
2002	Cruickshank Endowed Lecturer, University of Rhode Island
2001	Co-instructor, Comparative Invertebrate Embryology, Friday Harbor, University of Washington

1999-2002	Program Officer, Division of Evolutionary Development, Society for Integrative and Comparative Biology
1999-2010	Instructor, Embryology Course, MBL, Woods Hole, MA
1996	Lecturer, Embryology, Course MBL, Woods Hole, MA
1996-1997	Lecturer, Development and Neurobiology of the Leech, MBL, Woods Hole, MA
1996-1999	Member-at-Large, Society for Integrative and Comparative Biology
1996	Organizer, Society for Integrative and Comparative Biology, "Evolution of Development: Patterns and Process", Albuquerque, New Mexico
1994	Co-Organizer, Society for Integrative and Comparative Biology Symposium, "Evolution of Animal Body Plans"
1993	Minority Graduate Student Recruitment Committee, Founding Member, Univ. Chicago

Publishing:

Co-Editor-in-Chief:	EvoDevo (Open Access, BioMed Central) (www.evodevojournal.com)
Editorial Boards:	Developmental Biology Development, Genes, and Evolution (DGE) Evolution and Development Zoology Acta Zoologica
Guest Editor:	Proceedings of the National Academy of Sciences (P.N.A.S.) PLoS Genetics

Recent Publications (2012-Present):

Total citations: 22,718 (5/25/2022)
h-index: 72
i10-index: 197

Li, Q., Zhang, P., Li, J., Yu, H., Zhan, X., Zhu, Y., Guo, Q., Tan, H., Lundholm, N., Garcia, L. and Martin, M.D., Subirats, M.A., Su, Y-S., Ruiz-Trillo, I., **Martindale, M.Q.**, Yu, J-K., Gilbert, T.P., Zhang, G. 2022. On the origin and evolution of RNA editing in metazoans. Cell Reports. In Press.

Ohdera, A.H., Darymple, J., Avila-Magaña, V., Sharp, V., Watson, K., McCauley, M., Steinworth, B., Diaz-Almeyda, E.M., Kitchen, S.A., Poole, A.Z., Bellantuono, A., Sajeet Haridas[7], Grigoriev, I.V., Goentoro, L., Vallen, E., Baker, D.M., LaJeunesse, T.C., Loesgen, L., **Martindale, M.Q.**, DeGennaro, M., Fitt, W.K., Medina, M., 2022. Symbiosis-driven development in an early branching metazoan. bioRxiv 2022.07.21.500558; doi: https://doi.org/10.1101/2022.07.21.500558.

Gelderblom, H., Diddens, C., Marin, A., Ellison, S.T., Duraivel, S., Subramaniam, V., Hugosson, F., Yu, B., Lebowitz, J.J., Khoshbouei, H. and Lele, T.P., 2022. Where physics meets chemistry meets biology for fundamental soft matter research. *Soft Matter*, *18*, p.8561.

Ellison, S.T., Duraivel, S., Subramaniam, V., Hugosson, K.F., Lebowitz, J.L., Khoshbouei, H., **Martindale, M.Q.**, Angelini, T.E. 2022. Cellular Micromasonry: Biofabrication with Single Cell Precision. Soft Matter, 18, 8554-8560. doi.org/10.1039/D2SM01013E

Ortiz, J., Bobkov, Y.V., DeBiasse, M.B., Mitchell, D.G., Edgar, A., **Martindale, M.Q.**, Moss, A.G., Babonis, L.S., Ryan, J.F. 2022. Independent innexin radiation shaped signaling in ctenophores. bioRxiv https://doi.org/10.1101/2022.10.11.511657

Elias, J., Angelini, T., **Martindale, M.Q.**, and Gower, L. 2022. Assessment of optimal conditions for marine invertebrate cell-mediated mineralization of organic matrices. Biomimetics. 7, 86. doi.org/10.3390/biomimetics7030086

Babonis, L.S., Enjolras, C., Ryan, J.F., and **Martindale, M.Q.** 2022. A novel regulatory gene promotes novel cell fate by suppressing ancestral fate. PNAS, 119(19) 10.1073/pnas.2113701119.

Jinkerson, R.E., Russo, J.A., Newkirk, C.R., Kirk, A.L., Chi, R.J., **Martindale, M.Q.**, Grossman, A.R., Hatta, M., Xiang, T. 2022. Cnidarian-Symbiodiniaceae symbiosis establishment is independent of photosynthesis. Current Biology 32, 1–14.

Edgar, A., Ponciano, J., and **Martindale, M.Q**. 2022. Ctenophores are direct developers that reproduce continuously beginning very early after hatching. PNAS, 119 (18) e2122052119 DOI 10.1073/pnas.2122052119.

Martindale, M.Q. 2022. The "development" of the ctenophore *Mnemiopsis leidyi* and the cnidarian *Nematostella vectensis* as useful experimental models. In M. Srivastava and B. Goldstein (Eds), *Emerging model systems in Developmental Biology.* Current Topics in Developmental Biology, vol 147. Elsevier Press pp 93-120.

Ramon-Mateu, J., Edgar, A., Mitchell, D. and **Martindale, M.Q.** 2022. Studying Ctenophora WBR Using Mnemiopsis leidyi. In *Whole-Body Regeneration* (pp. 95-119). Humana, New York, NY.

Ramon-Mateu, J., Edgar, A., Mitchell, D., **Martindale, M.Q.** 2022. Studying whole-body regeneration using Mnemiopsis leidyi. In: Whole Body Regeneration: Methods and Protocols, EDS:Simon Blanchoud, and Brigitte Galliot. Humana Press. Methods in Molecular Biology, Springer Protocols. pp. 95-119.

Babonis, L.S., Enjolras, C., Reft, A.J., Foster, B.M., Hugosson, F., Ryan, J. F, Daly, M., **Martindale, M.Q.**, 2021. Knockout of a single Sox gene resurrects an ancestral cell type in the sea anemone Nematostella vectensis. BioRxiv Prepr. Serv. Biol. doi:https://doi.org/10.1101/2021.09.30.462561.

Mitchell, D.G., Edgar, A. & **Martindale, M.Q.** 2021. Improved histological fixation of gelatinous marine invertebrates. Front Zool 18, 1-13. https://doi.org/10.1186/s12983-021-00414-z.

Ellison, S.T., Subramaniam, V., Hugosson, K.F., Lebowitz, J.L., Khoshbouei, H., **Martindale, M.Q.**, Angelini, T.E.. 2022. Cellular Micromasonry: Biofabrication with Single Cell Precision. arXiv:2201.08534.

Edgar, A., Mitchell, D.M., and **Martindale, M.Q.** 2021. Whole body regeneration in the lobate ctenophore Mnemiopsis leidyi. Genes,12, 867. https://doi.org/10.3390/genes12060867.

Medina, M., Sharp, V., Ohdera, A., Bellantuono, A., Dalrymple, J., Gamero-Mora, E., Steinworth, B., Hofmann, D.K., **Martindale, M.Q.**, Morandini, A.C. and Degennaro, M. 2021. The Upside-Down Jellyfish Cassiopea xamachana as an Emerging Model System to Study Cnidarian–Algal Symbiosis. In Handbook of Marine Model Organisms in Experimental Biology (pp. 149-171). CRC Press.

Salinas-Saavedra, M., and **Martindale, M.Q.** 2020. Par protein localization during the early development of *Mnemiopsis leidyi* suggests different modes of epithelial organization in the Metazoa. eLife. 9, e54927.

Wu, L., Hiebert, L.S., Klann, M., Passamanack, Y., Bastin, B.R., Schneider, S.Q., **Martindale, M.Q.**, Seaver, E.C., Maslakova, S.A., Lambert, D. 2020. Spiralian-specific proteins and the evolution of spiralian ciliary bands. Nature Communications. 11, 4171.

Eastman, C.B., Farrell, J.A., Whitmore, L., Rollinson Ramia, D.R., Thomas, R.S., Prine, J., Eastman, S.F., Osborne, T.Z., **Martindale, M.Q.**, Duffy, D.J. 2020. Plastic ingestion and stomach accumulation is near ubiquitous across multiple species of deceased post-hatchling sea turtles in Florida near shore waters. Frontiers in Marine Biology. doi.org/10.3389/fmars.2020.00693

Newkirk, C., Frazer, T., **Martindale, M.Q.**, and Schnitzler, C., 2020. Adaptation to bleaching: are thermotolerant Symbiodiniaceae strains more successful than other strains under elevated temperatures in a model symbiotic cnidarian?" Frontiers in Microbiology, 11, 822, doi.org/10.3389/fmicb.2020.00822.

Li, Q., Zhang, P., Li, J., Yu, H., Zhan, X., Zhu, Y., Guo, Q., Tan, H., Lundholm, N., Garcia, L. and Martin, M.D., Subirats, M.A., Su, Y-S., Ruiz-Trillo, I., **Martindale, M.Q.**, Yu, J-K., Gilbert, T.P., Zhang, G. 2020. On the origin and evolution of RNA editing in metazoans. *bioRxiv*. doi: https://doi.org/10.1101/2020.01.19.911685

Whilde, J., Whitmore, L., Yang, C., Eastman, C.B., Thomas, R., Rollinson, D., Burkhalter, B., **Martindale, M.Q.**, and Duffy, D.J. 2019. Behaviour of juvenile green turtles (*Chelonia mydas*) before and after fibropapillomatosis tumour removal. Testudo Vol. 9, No. 1

Andrikou, C., Passamaneck, Y.J., Lowe, C., **Martindale, M.Q**, and Hejnol, A. 2019. Molecular patterning during the development of *Phoronopsis harmeri* reveals similarities to rhynchonelliform brachiopods. EvoDevo, 10 (33)

Salinas-Saavedra, M., and **Martindale, M.Q.** 2019. Par protein localization during the early development of *Mnemiopsis leidyi* suggests different modes of epithelial organization in Metazoa. bioRxiv https://www.biorxiv.org/content/10.1101/431114v2

Ramon, J.M., Ellison, T., Angelini, T., and **Martindale, M.Q.** 2019. Scar-less whole-body regeneration in the ctenophore *Mnemiopsis leidyi* occurs in the absence of a blastema, requires cell division and is temporally separable from wound healing . BMC-Biology 17(10), 1-25.

Babonis, L.S., Ryan, J.F., Enjolras, C., and **Martindale, M.Q.** 2019. Genomic analysis of the tryptome reveals molecular mechanisms of gland cell evolution. EvoDevo 10:23.

Babonis, L.S., Ryan, J.F., Enjolras, C., and **Martindale, M.Q.** 2019. Evolutionary dynamics of the trypsin superfamily and the origins of novel secretory cell function in the internalized ectoderm of the sea anemone *Nematostella vectensis.* https://www.biorxiv.org/content/10.1101/645952v1.

Xu, X., Li, G., Li, C., Zhang, J., Wang, Q., Simmons, D.K., Chen, X., Wijesena, N., Zhu, W., Wang, Z. and Wang, Z., **Martindale, M.Q.**, Liu, J. 2019. Evolutionary transition between invertebrates and vertebrates via methylation reprogramming in embryogenesis. National Science Review. nwz064, https://doi.org/10.1093/nsr/nwz064

Ramon, J.M., **Martindale, M.Q.** 2019. Scar-less whole-body regeneration in the absence of a blastema requires cell division in the ctenophore *Mnemiopsis leidyi.* bioRxiv doi: https://doi.org/10.1101/509331

DuBuc, T.Q., Ryan, J.F., **Martindale, M.Q.** 2019. “Dorsal–Ventral” Genes Are Part of an Ancient Axial Patterning System: Evidence from *Trichoplax adhaerens* (Placozoa), *Molecular Biology and Evolution*, 36(5) 966-973, msz025, https://doi.org/10.1093/molbev/msz025

Salinas-Saavedra, M., Wikramanayake, A., and **Martindale, M.Q.** 2018. β-catenin has an ancestral role in cell fate specification but not cell adhesion. bioRxiv 520957; doi:https://doi.org/10.1101/520957.

Salinas-Saavedra, M., and Martindale, M.Q. (2018). Par-Cteno-Genesis or Cteno Par-Genesis. bioRxiv. http://dx.doi.org/10.1101/431114.

Nakanishi, N., and **Martindale, M.Q.** 2018. CRISPR knockouts reveal an endogenous role for ancient neuropeptides in regulating the timing of life cycle transition in a sea anemone. eLife, doi: 10.7554/eLife.39742

Babonis, L.S., DeBiasse, M.B., Francis, W.R., Christianson, L.M., Haddock, S.H.D., **Martindale, M.Q.**, and Ryan, J.F. Ontogeny corroborates phylogeny: uncovering determinants of a novel cell type. Molecular Biology and Evolution. doi.org/10.1093/molbev/msy171.

Newkirk, C.R., Frazer, T.K., and **Martindale, M.Q.** 2018. Acquisition and proliferation of algal symbionts in polyps of the upside-down jellyfish,Cassiopea xamachana. J. Exp. Marine Biol. and Ecology. doi.org/10.1016/j.jembe.2018.08.010

Salinas-Saavedra, M., Rock, A.Q., and **Martindale, M.Q.** 2018. Germ layer specific regulation of cell adhesion: insight in to the evolution of mesoderm. eLife 7:e36740 doi: 10.7554/eLife.36740.
Farrell, J., Thomas, R., Martindale, M.Q. and Duffy, D. J. (2018). Characterisation of fibropapillomatosis tumour growth profiles in green sea turtles(Chelonia mydas). Testudo, 8 (5).

Dubuc, T.Q., Bobkov, Y., Ryan, J., and **Martindale, M.Q.** 2018. The radial expression of dorsalventral patterning genes in placozoans, Trichoplax adhaerens, argues for an oral-aboral axis. BioRx, BIORXIV/2018/345777

Dubuc, T.Q.,*, T.B. Stephenson, T.B.,*, Rock, A.Q., and **Martindale, M.Q.** 2018. Hox and Wnt interact to pattern the primary body axis of an anthozoan cnidarian before gastrulation. Nature Communications, 9(1). 2007. doi:10.1038/s41467-018-04184-x

Wijesena, N., and. **Martindale, M.Q.** 2018. Reengineering the primary body axis by ectopic embryonic cWnt signaling. Current Biology, 28 (5), R206-R207.

Babonis, L.S., DeBiasse, M.B., Francis, W.R., Christianson, L.M., Moss, A.G., Haddock, S.H.D., **Martindale, M.Q.**, Ryan, J.F. 2018. Integrating embryonic development and evolutionary history to characterize tentacle-specific cell types in a ctenophore. Molecular Biology and Evolution. doi:10.1093/molbev/msy171

Duffy, D, Schnitzler, C.E., Karpinski, L, Thomas, R, Whilde, J, Eastman, C, Yang, C, Krstic, A, Rollinson, D, Zirkelbach, B, Yetsko, K, Burkhalter, B, **Martindale, M.Q.** 2018. Sea turtle fibropapilloma tumors share genomic drivers and therapeutic vulnerabilities with human cancers. Communications Biology 1:63.

Dubuc, T.Q.,*, T.B. Stephenson, T.B.,*, Rock, A.Q., and **Martindale, M.Q.** 2017. Hox genes pattern the primary body axis of an anthozoan cnidarian prior to gastrulation. Nature Communications. http://dx.doi.org/10.1101/219758.

Davidson, P.L., Koch, B.J., Schnitzler, C.E., Henry, J.H., **Martindale, M.Q.**, Baxevanis, A.D., Browne, W.E. 2017. The maternal-zygotic transition and zygotic activation of the *Mnemiopsis leidyi* genome occurs within the first three cleavage cycles. Molecular Reproduction and Development, 84:1218**–**1229.

Bading, K.T., Kaehlert, S., Chi, X., Jaspers, C., **Martindale, M.Q.**, and Javidpour, J. 2017. Food availability drives plastic self-repair response in a basal metazoan: A case study on the invasive ctenophore *Mnemiopsis leidyi* A. Agassiz 1865. Scientific Reports, Nature 7:16419 DOI:10.1038/s41598-017-16346-w

Babonis, L.S., **Martindale M.Q.** 2017. PaxA, but not PaxC, is required for cnidocyte development in the sea anemone *Nematostella vectensis*. EvoDevo, 8 (1), 14.

Amiel, A.R., Johnston, H., Chock, T., Dahlin, P., Iglesias, M., Layden, M.J., Rottinger, E., and **Martindale, M.Q.** 2017. A bipolar role of the transcription factor ERG for cnidarian germ layer formation and apical domain patterning. Develop. Biol., 430, 346-361.

Servetnick, M., Steinworth, B., Babonis, L., Simmons, D., Salinas-Saavedra, M., and **Martindale, M.Q.** 2017. Cas9-mediated excision of *Nematostella brachyury* disrupts endomesoderm and oral-aboral patterning. Development *144*, 2951-2960.

Wijesena, N., Simmons, D.K. and **Martindale, M.Q.** 2017. Antagonistic BMP–cWNT signaling in the cnidarian Nematostella vectensis reveals insight into the evolution of mesoderm. Proceedings of the National Academy of Sciences, p.201701607.

Martindale, M.Q. and Duffy, D.J. 2016. Precision wildlife medicine: applications of the human-centred precision medicine revolution to species conservation. Glob Change Biol. doi:10.1111/gcb.13548

Babonis, L.S., **Martindale, M.Q.** 2016. Phylogenetic evidence for the modular evolution of metazoan signalling pathways. Phil. Trans. R. Soc. B 372: 20150477. http://dx.doi.org/10.1098/rstb.2015.0477.

Martindale, M.Q. The Onset of Regenerative Properties in Ctenophores. 2016. Eds. Tanaka, E., and Reddien, P., Current Opinion in Genetics and Development. 40, pp. 113-119 DOI: 10.1016/j.gde.2016.06.017.

Martín-Durán, J.M., Passamaneck, Y.J., **Martindale, M.Q.** and Hejnol, A., 2016. The developmental basis for the recurrent evolution of deuterostomy and protostomy. Nature Ecology & Evolution, *1*, p.0005.

Babonis, L., **Martindale, M.Q.**, and Ryan, J. 2016. Do novel genes drive novelty? A morphological and molecular investigation of the nematosomes in the model sea anemone *Nematostella vectensis*. BMC Evolutionary Biology. doi:10.1186/s12862-016-0683-3.

Layden, M.J., Johnston, H., Amiel, A., Steinworth, B., Havrilak, J., Chock, T., Röttinger, E., and **Martindale, M.Q.** 2016. MAPK signaling is necessary for neurogenesis in *Nematostella vectensis*. BMC Biology. 14:61 DOI: 10.1186/s12915-016-0282-1

Reitzel., A., Pang, K., and **Martindale, M.Q.** 2016. Developmental expression of “germline” and “sex determination” related genes in the ctenophore *Mnemiopsis leidyi*. EvoDevo. 7:17 DOI: 10.1186/s13227-016-0051-9.

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Simmon, D.K. and **Martindale, M.Q.** Ctenophora. in: Schmidt-Rhaesa, A., Harzsch, S. and Purschke, G. (2015). Structure and evolution of invertebrate nervous systems. Oxford University Press pp. 48-55.
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YJ Passamaneck, A Hejnol, MQ Martindale Passamaneck, Y.J., Hejnol, A., **Martindale, M.Q.** 2015. Mesodermal gene expression during the embryonic and larval development of the articulate brachiopod *Terebratalia transversa*. EvoDevo, 6:10. DOI: 10.1186/s13227-015-0004-8
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